MARINE CORPS
WARFIGHTING LABORATORY

ADVANCED RIFLE SCOPE

fact sheet

Advanced Rifle Scope (ARS) is a Marine Corps Warfighting Laboratory (MCWL) effort to develop a telescopic rifle scope that automatically corrects for range and wind. MCWL will experiment with integrated range finding and cross wind measuring technology.

Background: In April 2003, MCWL attended a briefing by a company that developed an integrated digital camera riflescope. MCWL realized that a digital processor integrated into a rifle scope might allow for the introduction of other shooting related technologies into the scope. MCWL developed a four phase plan to integrate technologies to measure range to target, cross winds, and an automatically correcting reticle. Fiscal year 2003 Congressional plus-up money was set aside specifically for the Marine Corps for further development of this rifle scope technology.

Phase I will experiment with a prototype modular camera that can be placed on or off the scope with minimum tooling and effort for training proposes. Phase 2 will experiment with a prototype telescopic rifle scope with an integrated Laser Range Finder (LRF) and wind measuring sensors to determine the accuracy of both measurements. Phase 3 will experiment with a prototype telescopic rifle scope with a reticle that automatically corrects windage and elevation adjustments based on weather, terrain, and range to target. Phase 4 will experiment with a mil-spec rifle scope incorporating all phase 1-3 technologies with feedback and input received during those experiments. Phase I experimentation will tentatively be executed early spring of 2004.

Description: The final look and dimensions of the ARS are subject to the technologies developed during the project. Initial guidance is that the ARS will be a variable power (3.5 – 10X) scope, should accurately measure range to target and winds out to 1000 yards, and retain manual functioning in the event that the electronics fail. The final prototype scope should maintain the basic shape and size of currently available rifle scopes.

Specifications:
- Modular digital camera
- Integrated laser range finder
- Integrated wind and elevation measuring sensor
- 30 mm tube
- Generation 2 mil dot reticle on first focal plane
- Variable power (3.5-10x or 4.5-14x)
- Weight not to exeed 2lbs 3oz

Deliverable Products: Contractor will deliver 10 prototype scopes at the end of each of the four phases of development encompassing all development to that point.

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